

CLAIMS

5 1. A method of communicating a request for a service from a mobile telecommunications device to said service via a cellular wireless network including a plurality of transceiver stations, each located in a corresponding cell, comprising the steps of:

10 establishing a wireless connection between said mobile device and one of said transceivers;

15 transmitting a request for the service from the mobile device to the transceiver;

20 determining the position of said mobile device;

25 estimating the accuracy of said position determination;

1 transmitting said request through the network and onward to the service, said transmitted request including position and accuracy information about the mobile device.

25 2. A method as claimed in claim 1 in which said position determining step includes the step of obtaining the position of said one transceiver from a table of stored transceiver positions and in which said estimating

step estimates the accuracy of said position determination from known cell dimensions.

3. A method as claimed in claim 2 in which said position determining step includes a further determination based on signal strength at said one transceiver.

4. A method as claimed in claim 1 in which said position of said mobile device is partly determined by detecting signal direction at said one transceiver.

5. A method as claimed in claim 1 in which the position of said mobile device is determined by analysing signals received at several of the transceivers.

6. A method as claimed in claim 1 in which said position of said mobile device is determined by said mobile device itself from satellite position reference signals.

7. A method as claimed in claim 1 in which said position determination is responsive to a request for service.

8. A method as claimed in claim 1 in which said position determining step takes place in said network when said device connection is established, said method including the further step of downloading and storing said position and accuracy information in said mobile

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device for subsequent transmission in the course of a request for service.

9. A method as claimed in claim 8 in which said position determining step takes place at intervals subsequently to said device connection being established.

10. A method as claimed in claim 1 in which the device position is determined to lie within a shaped area and accuracy is estimated from the boundaries of a circle or regular polygon fitted to said shaped area.

11. A method as claimed in claim 1 in which said service is an internet based service, said request being transmitted according to a predetermined protocol, said position and accuracy information being placed in a header field of said protocol.

12. A method as claimed in claim 11 wherein the protocol is Hypertext Transfer Protocol (HTTP).

25 13. A method as claimed in claim 11 in which said protocol includes user data, including the steps of encrypting said user data but not said position and accuracy information.

14. A method as claimed in claim 1 including the step of selectively controlling said position determination and transmission steps.

15. A method as claimed in claim 14 in which said selective control step is dependent on the nature of said request.

5 16. A method of communicating a request for a service from a mobile telecommunications device to said service via a cellular wireless network including a plurality of transceiver stations, each located in a corresponding cell, comprising the steps of:

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establishing a wireless connection between said mobile device and one of said transceivers;

transmitting a request for the service from the mobile device to the transceiver;

estimating the position of said mobile device from the position of said one transceiver in a table of stored transceiver positions ; and

transmitting said request through the network and onward to the service, said transmitted request including said estimated position information about said mobile device.

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17. A method as claimed in claim 16 in which said position determining step includes a further estimation based on signal strength at said one transceiver.

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18. A method as claimed in claim 16 in which said position is partly estimated by detecting signal direction at said one transceiver.

5 19. A method as claimed in claim 18 which includes the further step of testing whether position information is already included in said request and making said estimating step conditional on whether positional information is already included or not.

10 20. A method as claimed in claim 16 including the further steps of estimating the accuracy of said estimated position information and transmitting said accuracy estimate along with said request.

20 21. A computer program product recorded on a medium, said program comprising instructions which, when executed on a computer in a cellular telecommunications system, automatically provides information on the position of a mobile telecommunications device according to a method as claimed in claim 1.

25 22. A computer program product recorded on a medium, said program comprising instructions which, when executed on a computer in a cellular telecommunications system automatically provides information on the position of a mobile telecommunications device according to a method as claimed in claim 16.

23. A cellular telecommunications system comprising a plurality of transceiver stations forming a network for the transmission of signals from or to any of a plurality of mobile communication devices to an internet based server;

5 a location service means, responsive to a request from a mobile communications device for a service located on such a server, to determine the position of said mobile device;

10 means for estimating the accuracy of said position determination;

15 means for adding said position and accuracy information to said request for transmission to said server .

20 24. A system as claimed in claim 23 in which said location service means is arranged to obtain the position of said one transceiver from a table of stored transceiver positions and in which said means for estimating estimates the accuracy of said position determination from known cell dimensions.

25 25. A system as claimed in claim 24 in which said location service means is further adapted to determine position based on signal strength at said one transceiver.

26. A system as claimed in claim 25 in which said location service means is also adapted to detect signal direction at said one transceiver.

5 27. A system as claimed in claim 23 in which said location service means determines the position of said mobile device by analysing signals received at several of the transceivers.

10 28. A system as claimed in claim 23, in which said mobile device includes means for determining its position from satellite position reference signals.

15 29. A system as claimed in claim 23 in which said location service means is responsive to a request for service.

20 30. A system as claimed in claim 23 in which said location service means determines the position of a mobile communication device upon connection of said device to said network, said system further including means for downloading and storing said position and accuracy information in said mobile communication device for subsequent transmission in the course of a request for service.

25 31. A system as claimed in claim 23 in which said location service means determines that the device position lies within a shaped area and said means to

estimating accuracy is estimated from the boundaries of a circle or regular polygon fitted to said shaped area.

5 32. A cellular telecommunications system comprising a plurality of transceiver stations forming a network for transmission of signals from or to any of a plurality of mobile communication devices to an internet based server;

10 location service means, responsive to a request from a mobile communications device for a service located on such a server, to estimate the position of a mobile device, said position estimate being based on the position of the one of said transceiver stations receiving the strongest signal from said device, from a table of stored transceiver positions; and

15 means for adding said position estimate to said request for transmission to said server.

20 33. A system as claimed in claim 32 in which said position estimate is based on signal strength at said one transceiver.

25 34. A system as claimed in claim 32 in which said position estimate is partly based on signal direction at said one transceiver.

30 35. A system as claimed in claim 34 further including means for testing whether position information is already included in said request and making said position

estimation conditional on whether positional information is already included or not.

- 5 36. A system as claimed in claim 32 further including means for estimating the accuracy of said estimated position information and transmitting said accuracy estimate along with said request.

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